



University of Tennessee, Knoxville Trace: Tennessee Research and Creative Exchange

BESS Newsletter

Biosystems Engineering and Soil Science
Publications and Other Works

7-20-2009

BESS 7/20/2009

Department of Biosystems Engineering and Soil Sciences

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STUDENT PROFILE



JESSICA OTTINGER, from Decatur, TN, is a Senior in Environmental & Soil Sciences. This summer she is working as an intern in the KUB (Knoxville Utilities Board) Middlebrook Technical Services department. Michael Rose is her supervisor in the Environmental Science section.

Jess heard about the internship position when Dr. Joanne Logan sent a web link to students. Jess knows people who work at KUB and she understands that it is a good place to work, so she applied. As the team frequently works very closely together, there was a careful interview process. After two meetings, she was hired. She can stay as an intern as long as she is a full time student, and there is the possibility of becoming a permanent full time employee after graduation.

When KUB has to dig up soil to repair or install lines or equipment, the Technical Services group will look up information in records that date back to 1950 for information about possible soil contamination.

That way, the diggers can take any necessary precautions needed for employees and/or the groundwater. Sometimes there are field visits, and Jess is glad it is not all office work. One her first day Jess was treated as part of the team, expected to learn on the job. She was surprised but jumped in, and has found the job to have supportive co-workers and enjoyable challenges.

The internship is for about 15/hours week. Jess wishes she had started earlier, but her school schedule didn't allow it. She has been treated well, and has learned a great deal. She recommends the internship program to anyone interested in gaining real world experience.

THE UNIVERSITY of
TENNESSEE **UT**
 INSTITUTE of
 AGRICULTURE

Please submit items to Darla O'Neill doneill1@utk.edu
 BESS NEWS is issued on 1st & 3rd Mondays of each
 month. Archived issues post to [departmental website](#).
 To subscribe (or unsubscribe), email doneill1@utk.edu

BE THE
BESS
 BIOSYSTEMS ★ ENGINEERING ★ SOIL SCIENCE
 YOU CAN BE

MORE NEWS – CLICK BELOW

Funding Opportunities

BESS

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UTIA

Lots of congratulations to go around this issue!

First, congratulations to **George Grandle** and **Gary Honea** on their recent **retirement**. We are glad to know that they will continue to serve UT on a part-time basis!

Secondly, **Adrienne Roach**, MS BsET graduate and former student of Dr. John Buchanan and now doctoral student in Food Science and Technology, has been awarded a **W. K. McClure Scholarship** for the study of malaria.

She will use the scholarship to travel to Germany to work in the parasitology group of Dr. Volker Heussler at the Bernhard-Nocht-Institute for Tropical Medicine (BNITM) in Hamburg.

More info is here:

<http://www.agriculture.utk.edu/news/releases/2009/0906RoachFST.html>.

Congratulations Adrienne!



Next, we would like to recognize **faculty who have received sponsored research awards** during the first half of this year. They are:

Michael Buschermohle, Cotton Inc., *"Evaluation of Cotton Harvest Systems"*

Shawn Hawkins, Mannco Fertilizer, *"Yield & Forage Quality of Tall Fescue Amended with EQ Biosolids, Broiler Litter, and Chemical Fertilizers"*

Shawn Hawkins, Amy Johnson, Jaehoon Lee, Forbes Walker, Tennessee Department of Environment and Conservation, *"Prioritizing Pollutant Causes and Sources Using CADDIS and Arc-SWAT for Biologically Impaired Streams in Tennessee"*

Brian Leib, Cotton Inc., *"Deficit Irrigation of Cotton for Optimum Return on Investment"*

Tim Prather, USDA, *"Tennessee-Kentucky AgrAbility Project"*

John Wilkerson, Cotton Inc., *"Integration of Real-Time Spectral Sensing with Historic Yield Potential"*

Phillip Ye, US Army, *"Experiments Using Sophisticated FFP Microscopic and Spectroscopic Techniques to Evaluate Mechanisms of Bacterial Spore Inactivation by Lethal Agents."*

BESS NEWS

Kudos to **Alex McLemore** who has been chosen as one of four national **ASABE Student Honor Award Winners (Engineering Branches)**!

Also, finally, we are pleased to congratulate both of our **Senior Design Teams** on their performance in competitions at the **ASABE Annual International Meeting** in Reno, NV. The teams are pictured below:



Receiving the award for their entry "Powered Foldable ROPS" are (starting fourth from left) Chase Shaver, William Nichols, and Mitch Groothius. Other team members are John Kruckeberg and Abdoulaye Samba. Team Advisor is Paul Ayers.



Receiving the award for their entry "Optimization Protocol for Nitrogen Removal from Domestic Wastewater" are (starting fourth from left) William Rutemeyer, Ken Swinson, and Crystal Kelly. Team advisor is John Buchanan.

EXTENSION NEWS

“Electricity Rocks” at 4-H Electric Camp

(by Margaret Taylor, Mike Buschermohle, and Darla O'Neill)

Some 270 youth representing counties from across the state converged on UT the last week of June for the annual 4-H Electric Camp. Helping these campers explore the world of energy, electricity and the basic sciences through fun-filled, hands-on learning experiences were about 65 people from various electric companies and the Biosystems Engineering & Soil Science Department. This year they learned about Robotics, Extension Cords, Energy “Vampires” (Conservation), Electric Motors, Electric Vehicles, and most important – Electrical Safety. Tri-County EMC and KUB presented a high voltage show to display the “awesome power” of electricity, and what can happen if you get too close.

“The focus of the 4-H Electric Camp is to improve young people’s knowledge of electricity, energy conservation, alternative energy sources, electronics, computer applications and electrical safety” said Mike Buschermohle, BESS Extension professor and coordinator for the event. “They develop a better understanding of the important role electricity plays in their lives plus they have a lot of fun and they get to make many new friends from across the state.”

Campers were tested on their knowledge of electricity both at the beginning and end of camp. The number of correct answers on pre-tests averaged about 15%, but after participating in the learning centers, they averaged about 90%. The questions covered various topics like energy conservation, how an extension cord is put together, how a basic motor works, and electrical safety.

In addition to the learning centers, the camp also featured other learning activities on campus such as “Dr. Mike’s Science Laboratory” presented by Dr. Mike Buschermohle and “Watt is Electricity” presented by Ben Roy. The campers also spent a fun-filled afternoon at Dollywood.

The 4-H Electric Camp is made possible through a unique partnership established between UT Extension; the Tennessee Electric Cooperative Association and its statewide member cooperatives; the Tennessee Municipal Electric Power Association and its municipal power system members from across the state; TVA; and other industry donors

(story continued next page)



Mike Buschermohle emcee's an electrifying moment at 4-H Electric Camp.

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BESS Students Shine at Electric Camp:

BESS students Lori Gibson, Katie Peay, Sean Nester, and Joe Selby assisted Dr. Mike Buschermohle with practically every aspect of Electric Camp activities this year. As they soon learned, there is a lot of work involved in coordinating the movement of 300+ campers and chaperones through the programs in two days. Now they'll need new tennis shoes from all the running around!

This is the third year Lori Gibson has helped with camp. This year, Mike asked her to be in charge of most of the office work done before camp started. She processed registration forms, produced name badges, and assembled the registration packets to hand out to the power company volunteers and campers. According to Mike, she did an excellent job in assisting him during the frantic week of camp.

Lori was pleased to meet Larry Gage, a retired volunteer from Pickwick Electric Cooperative, that graduated in 1966 from Ag Engineering. He has volunteered most of the last 18 years of Electric Camp. He is really pleased to be able to give back to the department and enjoys working with the young 4-H'ers. Lori said she would like to come back and volunteer too, if she is able to in the future.

She really enjoyed all the people and excitement. When asked if she would consider sending her kids to Electric Camp, Lori said with a smile, "Yes, but after spending that much time with 300 11-13 year old kids, it is questionable if I will ever have any of my own!" She said the tests that the campers took proved they learned a lot, and she could see that the kids enjoyed the camp. She would be happy to be able to help provide that kind of experience for any child she knows.



Left to Right:

Lori Gibson

Katie Peay

Sean Nester

and Joe Selby

Sponsors of the 2009 4-H Electric Camp

Tennessee Electric Cooperative Association

Appalachian E.C.
Caney Fork E.C.
Cumberland E.M.C.
Duck River E.M.C.
Forked Deer E.C.
Fort Loudoun E.C.
Gibson E.M.C.
Holston E.C.
Meriwether Lewis E.C.
Mountain E.C.
Pickwick E.C.
Plateau E.C.
Powell Valley E.C.
Sequachee Valley E.C.
Southwest Tennessee E.M.C.
Tennessee Valley E.C.
The Middle Tennessee E.M.C.
Tri-County E.M.C.
Tri-State E.M.C.
Upper Cumberland E.M.C.
Volunteer E.C.

Tennessee Municipal Electric Power Association

Bolivar Energy Authority
Cleveland Utilities
Cookeville Department of Electricity
Dyersburg Electric System
Elizabethton Electric Department
Erwin Utilities
Gallatin Department of Electricity
Greeneville Light and Power
Jackson Energy Authority
Johnson City Power Board
Knoxville Utilities Board
LaFollette Utilities
Lawrenceburgh Utility Systems
Loudon Utilities
Morristown Utility Systems
Newport Utilities
Paris Board of Public Utilities
Springfield Electric Department
Weakley County Municipal Electric
System

TVA

Cooperative Research Center, Inc.

Donors:

BSE Harris Electric – Lloyd Rogers
CG Roxane Water Co. – David Gavin
Duracell Global Business Group – Bill
Barkley, Sheila Ogle
Industrial Mechanical and Electrical Corp
– Chris Robinson
MEMRA – Ed Bailey
Old Hickory Credit Union – Bonnette
Dawson, Bob Crain
Stowers Engines and Power Products –
Brian Muncher, Matt Kirkpatrick
Tri-County E.C. – Paul Thompson
TVA – Cindy Herron

EXTENSION NEWS

Photos from “Electricity Rocks” 4-H Electric Camp

Everyone gets the chance to be a rockstar thanks to the power of electricity!



EXTENSION NEWS

Electric Camp Photos (continued):



Robotic Arms - Robots were once only seen in science fiction movies; however, today robots are used to do many tasks. Campers learned about the latest robot technology and then had a chance to try their hand at controlling a robotic arm. Nothing but net!



Electric Vehicles - Campers learned about batteries, DC current and how DC current is used to propel electric vehicles. They also demonstrated their driving skills by maneuvering an electric golf cart through an obstacle course



Break Time!
Donuts and juice prove some much needed energy to power the campers for the day's activities.

EXTENSION NEWS

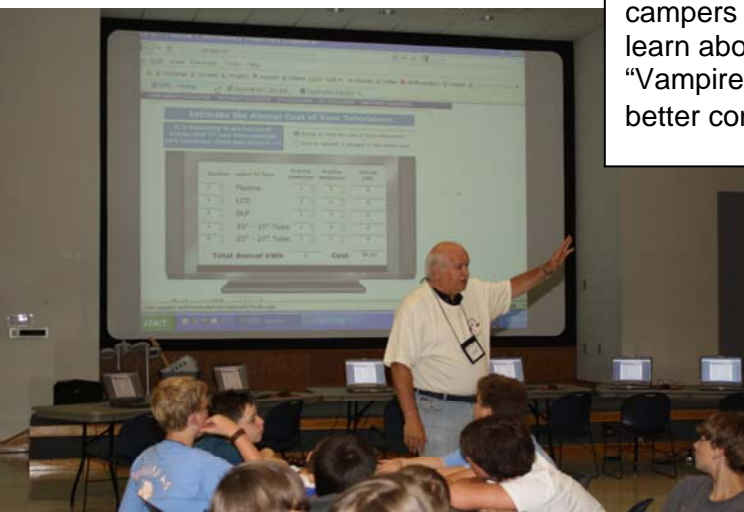
Photos from "Electricity Rocks" 4-H Electric Camp



(Above/Right) Wiring an extension cord proved to be a very popular activity



Hands-On Demos give campers an opportunity to learn about Energy "Vampires" and how to better conserve electricity.



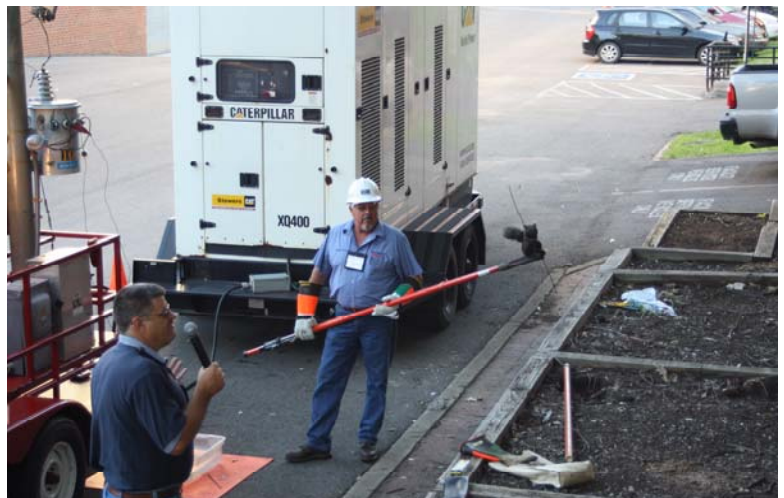
EXTENSION NEWS

Electric Camp Photos (continued):



Left: A camper uses a sensor to detect buried water lines.

Below: Power company volunteers demonstrate safety measures with the help of a fearless “squirrel” friend.



Above: a camper dons safety gear used by technicians when working with power lines.



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AWSS Announces Student Travel Grant for SSSA Annual Meeting

The Association of Women Soil Scientists (AWSS) is sponsoring a program to provide funding for an Undergraduate or graduate woman to travel to the Soil Science Society of America Annual Meeting to present the results of her research. Grants of up to \$500. may be used only for defraying the cost of registration, travel, and accommodations associated with the meeting.

AWSS is a 501(c)(6) nonprofit organization of women and men in soil science who support these goals:

1. To establish and maintain high standards for professional women soil scientists;
2. To promote and enhance communication among professional soil scientists;
3. To promote a dialogue of soil information and to encourage an interchange with other technical and scientific communities;
4. To promote better understanding of the role of soil scientists;
5. To provide assistance and encouragement for women in non-traditional fields and for women seeking employment in the field of soil science.

AWSS is a member <<http://www.awss.org/articles/2001/soilsconsortium.html>> of the United States Consortium of Soil Science Associations (USCOSA) <<http://soilsassociation.org/>>.

Please see the application guidelines for more information at <http://www.womeninsoils.org/>

Graduate Assistantship - Make Orange Green

The Make Orange Green Graduate Assistantship is supported through the Student Environmental Initiatives Fee and the Facilities Services department and includes a stipend, health insurance and full remission of tuition fees. The Graduate Assistant will provide support to Make Orange Green and other university environmental initiatives. The ideal candidate for the Graduate Assistantship will have strong graphic design, publication layout, research and writing skills. In addition, they should be able to work independently and have a passion for environmental work. To qualify for the position, applicants must be enrolled in a graduate program at UT Knoxville for fall 2009, and must be available to start work during the first week of classes.

For a complete job description and application instructions click [here](#) or email gbennet5@utk.edu. The closing date for applications is **August 4, 2009**. The University of Tennessee is an EEO/AA/Title VI/Title IX/Section 504/ADA/ADEA Institution.

The Institute of Biological Engineering Announces the 2009-2010 Bioethics Essay Contest for undergraduate and graduate students

Submit a 1000 to 1200 word, original essay on the following bioethics topic by **October 15, 2009**, to be part of this year's contest.

TOPIC: **"In the context of synthetic biology, how should the public's concerns regarding safety and ethics be heard and integrated?"**

Five semifinalists will be selected and invited by January 7, 2010, to read their winning essays at the 2010 Annual Meeting of the Institute of Biological Engineering (IBE) to be held March 4-6, 2010, in Cambridge, MA. The final ranking of the essay will be determined after the reading of the essays at the Annual Meeting. The top three winners will receive cash awards of \$150 for first place, \$100 for second place, and \$75 for third place. The first place essay will be reviewed for publication in the *Journal of Biological Engineering*, the official journal of IBE. Entries should be submitted in Word or PDF format to the following email address: essay@ibe.org Undergraduate and graduate students may enter the contest. By submitting, you are agreeing to attend the 2010 IBE Annual Meeting and provide your own travel expenses if you are selected as a semifinalist. IBE will provide complimentary Annual Meeting registration for all five semifinalists. All essays must include title, author's full name, program of study, degree you are seeking, name of the institution, daytime telephone number, email address, and mailing address. Entries will be submitted to a plagiarism-checking service. IBE reserves the right to disqualify any entry judged as non-original or any entry over 1200 words. All winning essays will become the property of IBE. IBE is not responsible for any possible difficulties in submission. Only winners will be notified of results. Register for the 2010 IBE annual meeting at: www.ibe.org

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Engineering Career Success Kick Off - September 15/16

The 2nd annual Engineering Career Success Kick Off event will take place this year on September 15th and 16th. All Engineering staff and faculty will be welcome to enjoy the Garmin International/Theta Tau Cookout (while supplies last) and Networking Reception on September 15th. And of course, all staff and faculty are invited to any of the workshops throughout the day and to the Keynote Speaker Event that evening, UT Alumni and retired NASA astronaut, Col. Henry "Hank" Hartsfield. Please share this with your department and encourage all students to come to the events if their schedule permits. *For more information, contact Leslie Fox, UT Career Services Engineering Consultant at lfox6@utk.edu or 865-974-5435*

CAREER SUCCESS FOR ENGINEERS KICK-OFF

Tuesday, September 15, 2009

10 am - 12 noon	Engineering Student Group Information Fair.	Science and Engineering Building 1 st Floor
10 am - 12 noon	"Meet Garmin International" Info Table/Give-Aways	Perkins Hall/Ferris Hall Courtyard
11 am - 12 noon	Garmin International/Theta Tau Cookout	Perkins Hall/Farris Hall Courtyard
10:30 am - 11:15 am	"Engineering Co-Op and Internship Opportunities" –.	Shiloh Room – Room 235 – UC
11:30 am - 12:45 pm	"Leadership for Engineers	Shiloh Room – Room 235 UC
1 pm - 2:15 pm	"Get Ready, It's Job Time	Shiloh Room – Room 235 UC
2:30 pm - 3:45 pm	"Where are the Jobs?" Eaton Corp. Career Workshop	Shiloh Room – Room 235 UC
4 pm – 5:15 pm	"How To Mingle & Network at Career Events	Shiloh Room – Room 235 UC
5:30 pm - 6:45 pm	Networking	Crest Room – Room 211 UC
6:45 pm - 8:00 pm	Keynote Speaker - Col. Henry "Hank" Hartsfield Jr.	Volunteer Ballroom –UC

Wednesday, September 16, 2009

10 am – 3 pm Appointments required through HIRE-A-VOL or at Registration Tables Sept. 15	Resume Critiques and Practice Interviews with Engineering Company Representatives – <i>Students must sign-up for an appointment and should bring a copy of their resume to the appointments.</i>	Mock Interviews/Resume --UT Career Services --100 Dunford Hall 865-974-5435, career.utk.edu
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CASNR NEWS

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University Housing Opening Weekend – Faculty Involvement Sought

----- Original Message -----

From: "Provost Susan Martin" [provost@utk.edu]

Sent: 07/16/2009 07:09 PM AST

To: "UT Faculty" <provost@utk.edu>

Subject: University Housing Opening Weekend

Dear Colleagues,

Please read the message below from Jerry Adams of University Housing.

I encourage you to take part in this program to help our incoming freshmen during their move-in period August 14-16.

Thanks,

Susan

Dear Faculty Member:

I hope this letter finds you relaxing and enjoying the summer months. University Housing is once again recruiting faculty and staff members to help welcome students to campus.

We are not asking you to move furniture, lift boxes, or in general sweat it out as students arrive. Instead, we simply want you to welcome students and their parents, and to identify yourself and your position in the university. Meeting the chancellor, provost, dean, department head, faculty or staff member on move-in day will make a terrific and long-lasting first impression of our campus.

Once again this year, Resident Assistants will check-in students on their floors; therefore, we are recruiting campus leaders to work shifts during Opening Weekend. Your duties will be confined to giving directions to the elevators, checking out carts, scanning students ID at the front desks, and answering general questions.

If you are interested, we would like participants to volunteer during one of the following blocks on Friday, August 14th, Saturday, August 15th or Sunday, August 16th. Please rank your top two time blocks and we will do our best to schedule you during your preferred times.

The times are as follows:

Friday , August 14th (Morrill Only- limited shifts)

Noon - 4 p.m.

4 p.m. - 8 p.m.

Saturday, August 15th (Freshmen Residence Halls)

7 a.m. - Noon

Noon - 5 p.m.

Sunday, August 16th (Apartment Residence Hall and Volunteer Hall)

9 a.m. - 1 p.m.

1 p.m. - 5 p.m.

In return for your participation, you will have an opportunity to connect with our newest students. Additionally you will receive a t-shirt to wear during move-in.

If you would like to participate, please contact me at jra@tennessee.edu by **July 31, 2009**.

Sincerely,

Jerry R. Adams

Associate Director of University Housing

University of Tennessee, Knoxville

AgResearch NEWS

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Opportunities to Host Scholars and Fellows from China and Bulgaria

Attached are three separate Requests for Proposals that we are sending to you on behalf of USDA's Foreign Agricultural Service (FAS). If you are interested in any of these opportunities, please submit individual proposals and budgets as described (do not combine your submissions). Also attached is a budget template to help you estimate expenditures. The deadline for the two China programs is July 31, 2009; the deadline for the Bulgaria program is Aug. 3, 2009.

- 1) For the **Borlaug Fellowship Program for China**, FAS is seeking a university to host one scientist interested in research on allergens and toxicology of GMO's. Please submit the proposal and estimated budget via email to: Catherine.chesnutt@fas.usda.gov and Abiola.Adeyemi@fas.usda.gov. **FAS would like to receive all expressions of interest by July 31, 2009.** Funding support will be provided using USDA as part of the Borlaug Fellowship Program. For more information on this opportunity, please contact **Catherine Chesnutt, USDA/FAS at tel: 202-720-0301**, or **Abiola Adeyemi, USDA/FAS at tel: 202-720-8096 or at the email address listed above**. For more information on the Borlaug Program, please visit our website at: www.fas.usda.gov/icd/borlaug/borlaug.htm.
- 2) For the **China Scientific Exchanges Program**, there are two scholars coming to the U.S. interested in regulatory policy issues and challenges associated with trade in agricultural biotech products. This program requires U.S. mentors to travel to China for follow-up 3-6 months after the U.S. program. Interested institutions should submit a 2-3 page description of institutional capabilities to address the desired research activities and expected results described in this scope of work by close of business, **July 31, 2009**. Staff resumes and other addendum are in addition to the technical response. Please provide an estimated budget with staff time, international travel costs including lodging and per diem, including other miscellaneous costs, using an indirect rate not to exceed 10% for land grant universities and colleges. Please direct proposals and any questions to: Catherine Chesnutt, Catherine.Chesnutt@fas.usda.gov and Abiola Adeyemi, Abiola.Adeyemi@fas.usda.gov
- 3) For the **Bulgaria Borlaug Fellows Program**, five scientists are visiting with a wide range of interests (avian disease diagnostics, food safety, animal diseases, and plant pathology) Funding support will be provided by USDA and the America for Bulgaria Foundation. For more information on this opportunity, please contact Abiola Adeyemi, USDA/FAS at tel: 202-720-8096, or Catherine Chesnutt, USDA/FAS at tel: 202-720-0301. For more information on the Borlaug Program, please visit our website at: www.fas.usda.gov/icd/borlaug/borlaug.html
FAS would like to receive all expressions of interest by **August 3, 2009**.

All of these programs are scheduled to begin in September or October and last from 6 to 8 weeks. Please submit your proposals and address any questions directly to the FAS staff listed on the attached documents.

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AgResearch & UT Extension Innovation Fund – Internal Grants Program Opportunity

AgResearch and UT Extension announce the formation of an internal grants program; please see the attached pdf file ([here](#)) for application procedures.

These funds are designed with the ultimate goal of leverage, positioning faculty with preliminary data to increase success with larger scale grant application and to support projects that need funding to position them for commercialization.

Please note the due date of **August 21, 2009** for receipt of applications.

ARRA (Stimulus) Funds for Innovative Extension Programs

We will receive federal ARRA funds through the state budget for Extension programming for FY 10 and FY 11.

We want to invest these funds in new, innovative and enhanced Extension programs in agriculture, natural resources and resource development.

Funds will be available to Extension personnel in departments, CPA, SPPC, regions and counties.

Funding decisions will be made based on proposals that describe the proposed use of the funds, expected outcomes, and potential long-term benefits.

The attached request for proposals includes more information. **Deadline is July 31**. Application and instructions can be found [here](#).

Please note, restrictions on these funds include no capital equipment purchases, no new construction, and no permanent employee hires.

They may be used for term or limited duration positions, minor equipment purchases, travel, supplies, and other operating expenses.

Also note the funds are available until June 30, 2011. Carryover beyond June 30, 2011 is impossible.

Expenditures must be completed by March 31, 2011 to provide time to redirect any unspent balances.

Details about reporting requirements are not available as yet. We can expect regular reports will be required focusing on specific impacts and outcomes.

This is a great opportunity to invest in innovative programs which will benefit Extension after this two-year period.

Please share this information with faculty, staff and agents as appropriate.

Please let me know if you have questions.

--George Smith

Southern SARE Sustainable Community Innovation Grant –CFP

SUSTAINABLE COMMUNITY PROPOSALS INVITED

Proposals are invited for the 2009 Southern Region Sustainable Community Innovation (SCI) Grants to fund projects that link sustainable agriculture to rural community development. The grants have a funding maximum of \$10,000 for up to two years of project activities. Proposals will be accepted until **October 5, 2009** with awards announced mid-to-late December.

SCI grants link farms with the non-farm population in a community for the purpose of economic development. For example, in Kentucky a closed county landfill provides the space for a greenhouse where a SCI grant pays for workshops to train growers in raising native azaleas from seed. The greenhouse also serves as a nursery for the young plants and sustainably grown vegetables. In Virginia a SCI grant is paying for a two-year training and marketing project to help tobacco farmers transition to growing organic produce and free range eggs.

Any individuals, non-profit organizations, for-profit organizations, governmental organizations and/or educational organizations may apply for a Sustainable Community Innovation Grant. Applicants must be from the Southern Region, which consists of Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, Puerto Rico and the US Virgin Islands.

Proposals must be submitted through an online template. The call for proposals can be obtained at

<http://www.southernsare.uga.edu/callpage.htm>

SCI grants are a partnership of the Southern Region Sustainable Agriculture Research and Education Program and the Southern Rural Development Center.

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NSF Academic Research Infrastructure Program: Recovery and Reinvestment (ARI-R²)

Scientific discoveries are emerging at an accelerated pace, presenting new frontiers for exploration, stimulating innovation and economic growth, and driving the development of new tools and systems to support research. Likewise, the convergence of disciplines and the cross-fertilization that characterized contemporary science and engineering have made collaboration a centerpiece of the 21st century science and engineering enterprise.

As new scientific opportunities and processes have emerged, the Nation's research facility requirements have also evolved and changed. In 2005, NSF estimated that academic institutions then had at least \$3.6 billion in deferred projects to repair and renovate science and engineering research facilities (FY05 Survey of Science and Engineering Research Facilities.)

As a result of the American Recovery and Reinvestment Act of 2009, NSF will invest \$200 million in the Nation's research facilities and research training infrastructure. This investment will advance the science and engineering research enterprise at many institutions.

The purpose of this program is to enhance the Nation's existing research facilities where sponsored and/or unsponsored research activities and research training take place to enable next-generation research infrastructure that integrates shared resources across user communities. Consistent with NSF's mission to strengthen the U.S. science and engineering enterprise, the ARI-R² program will:

- Update existing research facilities at institutions of higher education (including graduate and undergraduate institutions, among which are included community colleges) and other non-profit research organizations (e.g., independent research museums, independent research laboratories, and research consortia) in order to support research that can address the challenges of the 21st century.
- Enable academic departments, disciplinary and cross-disciplinary units, or multi-organization consortia to renovate research facilities through the addition or augmentation of cyberinfrastructure, other than general-purpose computing systems or data storage systems, to create environments that enhance research and integrate research with education.
- Improve access to and increase use of next-generation research facilities for researchers, educators and students.
- Assist research organizations, including those that have historically received limited Federal research and development funds, to improve their science and engineering research environments.

Academic Research Infrastructure Program: Recovery and Reinvestment webpage:

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503380

Full Proposal Deadline Date: **August 24, 2009**

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July 17, 2009

All:

Please see the note below regarding two CSREES Grantsmanship Workshops. We will have funds available to support travel; more details later.

Best regards.

Bill Brown

GRANTSMANSHIP WORKSHOPS ANNOUNCEMENT

2009 CSREES Grantsmanship Workshops and Writing Winning Grants Workshops

Grantsmanship workshops will be held again this fall to highlight the competitive programs in USDA-CSREES and to help grant writers improve their overall success.

Both the CSREES Grantsmanship Workshop and the Writing Winning Grants Workshop have received outstanding reviews from across the country in past years. These workshops will be offered together in Washington, DC on Nov 16 - 17 and in Kansas City, MO on Nov 10 - 11.

During the CSREES Grantsmanship Workshop an excellent group of program directors from CSREES will be providing an overview of funding programs within the Agriculture and Food Research Initiative (AFRI) and other competitive programs and the 2010 AFRI Request for Applications. In addition, there will breakout discussion on specific program areas as well as a mock review panel to provide insights on successful grants and the review process.

The Writing Winning Grants Workshop, presented by Drs Thomas Fretz and Michael Harrington, will feature topics that include: Where to look for funds, Principles of grant writing, Organizing integrated proposals, Developing the grant budget, Ethics in grant writing, and Common short-comings in the grant application.

Travel grants will be available for participants from minority serving institutions, including 1890s, 1994s and other tribal colleges as well as Pacific Islander, Native Hawaii and Hispanic serving institutions. The travel grant application forms for each workshop are available on the web sites below and the application is due August 15.

Washington DC Workshop: November 16 - 17, Crystal Gateway Marriott, Arlington, VA

Cosponsored by the Southern Association of Agricultural Experiment Station Directors, the Northeast Regional Research Association, and USDA-CSREES

Please visit the workshop website for information on registration, hotels and program agenda:

<http://www.cpe.vt.edu/usdagrant/index.html>

Kansas City, MO Workshop: November 10 - 11, Embassy Suites, Kansas City, MO

Cosponsored by University of Missouri, the Western Association of Agricultural Experiment Station Directors, and USDA-CSREES

Please visit the workshop website for information on registration, hotels and the program agenda:

<http://muconf.missouri.edu/usda-csrees/index.html>

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919-513-1746
919-513-1114 (fax)

On-line Lecture Series

This series is recommended for researchers (professional staff and faculty, grad students and post-docs) and deals with successfully commercializing any type of research activity, whether focused on engineering, physical sciences or life-sciences. It will cover the practical business and legal issues that researchers need to understand to commercialize their research.

It also will deal with the different ways to commercialize research, ranging from the traditional (i.e., employment and licensing) to the more entrepreneurial (i.e., consulting, joint venturing/strategic alliance and startup company).

This 11-lecture course is free, but registration is required.

To register, go to <http://researchercourse.ncet2backoffice.org/>.

Each lecture is a 90-minute webinar. There will be expert guest speakers for each session. Topics are listed below.

Agenda:

Lecture 1: Commercialization Methods: Employment, Licensing, Consulting, Joint Venturing and Startup
June 18, 1-2:30pm EST

Lecture 2: The Fundamental Essentials: Patents
June 25, 1-2:30pm EST

Lecture 3: The Fundamental Essentials: Copyrights, Trademarks, Trade Secrets
July 9, 1-2:30pm EST

Lecture 4: The Fundamental Essentials: Employment Agreements
July 16, 1-2:30pm EST

Lecture 5: The Fundamental Essentials: Tech Transfer and Licensing Agreements
July 23, 1-2:30pm EST

Lecture 6: The Fundamental Essentials: Consulting Agreements
July 30, 1-2:30pm EST

Lecture 7: The Advanced Essentials: Business Entities
August 6, 1-2:30pm EST

Lecture 8: The Advanced Essentials: Shareholder Agreements; Directors and Executives; Term Sheets; Private Placement Memoranda; Stock Purchase Agreements
August 13, 1-2:30pm EST

Lecture 9: The Advanced Essentials: SBIRs/STTRs
August 20, 1-2:30pm EST

Lecture 10: The Advanced Essentials: Corporate Strategic Alliances and Joint Venturing
August 27, 1-2:30pm EST

Lecture 11: The Advanced Essentials: Angel Investors and Venture Capital
September 3, 1-2:30pm EST

Potential Make-up Classes
September 10 and 17, 1-2:30pm EST

The University of Tennessee is an EEO/AA/Title VI/Title IX/Section 504/ADA/ADEA institution in the provision of its education and employment programs and services. All qualified applicants will receive equal consideration for employment without regard to race, color, national origin, religion, sex, pregnancy, marital status, sexual orientation, gender identity, age, physical or mental disability, or covered veteran status.

2009-2010 AgResearch and Extension Innovation Fund

AgResearch and Extension request proposals for funding from the AgResearch and Extension Innovation Fund which provides funding for two target areas:

1. *Projects which position faculty with preliminary data to be successful with large scale regional, national or other grant applications; and/or*
2. *Projects that need funding to position them for commercialization.*

PIs must be a UTIA faculty member eligible to submit a proposal to an external funding agency. A faculty member may be the PI on only one submitted grant. Multi-departmental and multi-disciplinary proposals are encouraged.

Proposal Due Date: Submit proposals electronically to both the Dean for Research office (Micki Heatherly; mheather@utk.edu) and the Assistant Dean for Extension office (Glenda Dodson; gdodson@utk.edu) by 5 pm on August 21, 2009.

Proposal Guidelines:

Cover page (see attached form) with name, investigator(s) title, affiliation(s), proposal title, and requested budget. This page should include signatures of all investigators on the project.

Abstract/Summary (250 words maximum)

Project Plan (maximum of three (3) pages in length including references); 12 point font, minimum of 1.0 inch spacing; must include:

Statement of Hypothesis

Specific Aims

Background (brief; should be approximately one paragraph and NOT a comprehensive review of the literature)

Rationale and Significance

Methods

Budget and Justification. Projects will be supported for one year; however, unique cases may have up to a two-year period of support. Requested budgets should not exceed \$30,000. Allowed cost items include supplies and minor equipment, travel, funding for support staff. Please, no indirect costs, faculty salary, faculty salary bonus plan, buy-off of UTIA technician time. For integrated research and extension proposals, please indicate percentage of budget for AgResearch and Extension.

Letters of support from collaborating investigators where appropriate. Specify the collaborator's role and responsibility in the project.

Description of funding opportunities which will be sought as a result of the proposal if funded.

Proposal Review Process: Proposals will be reviewed and ranked by a panel that includes the UTIA Grantsmanship Taskforce along with selected UTIA faculty, ensuring that adequate peer review capacity across a wide range of research and extension programmatic areas is represented. Ad hoc reviewers may be used if necessary.

Proposals will be evaluated on the following criteria:

- Scientific Merit: Is there a strong justification and rationale for the project? Does the proposal follow the established guidelines for preparation?
- Importance/Impact: To what extent will this work contribute useful pilot data to strengthen future proposals? Will this research have a significant impact?
- Novelty: Is the proposed research new, or does it repeat previous work?
- Methodology: Are the methods sound, and does the team have expertise to conduct the work?
- Viability: Is there a plan for how this will lead to an external grant proposal being submitted within one year of completion of the project?

Proposals will be ranked into the following categories as advisory to the Dean for Research and Dean for Extension Offices:

- Recommend funding (totally or partially)
- Fund if dollars available (totally or partially)
- Revise and resubmit
- Do not fund

Final Report: Upon completion of the funded project, a final report, not to exceed two pages in length, should be submitted to the Dean's offices for review by the review panel. The report should briefly include:

- Project results
- Plans for submitting a "full-scale" proposal to an external funding agency
- Manuscripts published or in preparation as a result of the project
- Presentation of results at professional meetings

Full-Scale Proposal Development: Within one year of completion of the project, the recipient must provide documentation that a "full-scale" proposal (resultant to the internally funded project) has been submitted to an external funding agency. Failure to do so will jeopardize future internal funding opportunities.

AgResearch and Extension Innovation Fund

PI Name: _____ Title: _____
Phone: _____ Email: _____
Department: _____
Title of proposal _____
Amount _____
requested: _____

Signatures:

	Name	Signature	Date
PI	_____	_____	_____
Co-PIs	_____	_____	_____
	_____	_____	_____
	_____	_____	_____

Department Head _____

Attachments:

1. This cover page
2. Abstract/Summary (250 words maximum)
3. Research Plan (maximum of three (3) pages in length including references); 12 point font, minimum of 1.0 spacing; must include:
 - a. Statement of Hypothesis
 - b. Specific Aims
 - c. Background (brief; should be approximately one paragraph and NOT a comprehensive review of the literature)
 - d. Rationale and Significance
 - e. Methods
4. Budget and Justification: Projects will be supported for one year; however, unique cases may have up to a two-year period of support. Requested budgets should not exceed \$30,000. Allowed cost items include supplies and minor equipment, travel, funding for support staff. Please, no indirect costs, faculty salary, faculty salary bonus plan, buy-off of UTIA technician time.
5. Letters of support from collaborating investigators where appropriate
6. Description of funding opportunities which will be sought as a result of the proposal if funded.

Submit applications electronically to both the Dean for Research office (Micki Heatherly; mheather@utk.edu) and the Assistant Dean for Extension office (Glenda Dodson; gdodson@utk.edu) by 5 pm on August 21, 2009. The signed cover page should be submitted to either the Dean for Research or Assistant Dean for Extension office.

ARRA Innovative Extension Program Proposal

Leader: _____ Title: _____
Phone: _____ Email: _____
Unit/County: _____
Title of proposal _____
Amount requested: _____

Signatures:

	Name	Signature	Date
Leader:	_____	_____	_____
Co-Leaders:	_____	_____	_____
(add a page if needed)	_____	_____	_____
	_____	_____	_____
Unit Head or Regional Director:	_____	_____	_____

Attachments to this cover page:

1. Abstract/Summary (250 words maximum)
2. Narrative (maximum of four (4) pages in length including any references); 12 point font, minimum of 1.0 spacing; must include:
 - a. Background
 - b. What will be done -Specific aims and methods
 - c. Responsibilities - Who will do what
 - d. Timeline – When will elements of the project be done
 - e. Expected outcomes and impacts – How will they be measured and/or documented
 - f. Description of long-term benefits to Extension
 - g. Plans to support project after 3/31/11, if appropriate
3. Budget and Justification: Projects must be completed by March 31, 2011. Requested budgets should generally be in the \$2,000 to \$50,000 range; but larger amounts will be considered. Allowed cost items include contracts with outside suppliers, supplies and minor equipment, travel, and funding for term positions. Please, no indirect costs, faculty or agent salary, or salary incentive plan.
4. Letters of support from collaborators where appropriate

Submit proposals electronically to: George F. Smith (gfsmith@utk.edu)

Submit the signed cover page to 120 Morgan Hall (George F. Smith's office).

Deadline is 5:00 pm July 31, 2009.

ARRA Funds Proposal Innovative Extension Programs

Focus: The purpose is to use ARRA (stimulus) funds to develop new, innovative and/or enhanced Extension programs. The goal is to make investments that will help Extension

- Do Things Better
- Do Better Things

Examples of doing things better include reducing costs; developing or enhancing computer programs, including programs that could be sold; developing or enhancing fee-based program materials; and investments to enhance employee skills.

Examples of doing better things include piloting new programs, especially those with potential to generate fees and/or attract extramural funding; offering new or enhanced fee-based services on a pilot basis; and employing undergraduate/graduate students to work on specific, high-priority Extension projects under the direction of Extension faculty, this kind of mentoring could create or increase interest in Extension as a career as well as providing direct assistance to a project.

Approach: Funds are available to departments, CPA, SPPC regions and counties. Proposals will be accepted until 5:00 pm on July 31, 2009. A second round of proposals may be accepted subject to availability of funds.

Guidelines:

- No capital equipment purchases (items costing \$5,000 or more)
- No new construction
- No permanent employees
- Projects must be completed by March 31, 2011
- Quarterly progress reports will be required
- Generally, projects should be in the \$2,000-\$50,000 range; however, larger projects will be considered.
- Cost transfers to ARRA accounts are not allowed. Be sure to charge expenses to the correct account.

Application: Submit the proposal cover page plus:

- an abstract or summary (250 words or less)
- a narrative description (what, when, where, who, and why- four pages or less),
- a budget (start-6/30/10 and 7/1/10-3/31/11 plus a total budget)
- budget narrative, and
- impacts/outcomes/benefits of the project, including how they will be measured.

Evaluation: Preference will be give to projects that:

- Target program development, not simply to cover ordinary operating expenses or normal travel
- Involve counties and/or area specialists
- Are multi-disciplinary
- Are new and innovative
- Have the potential to become self-supporting
- Will continue to benefit Extension after 3/31/11